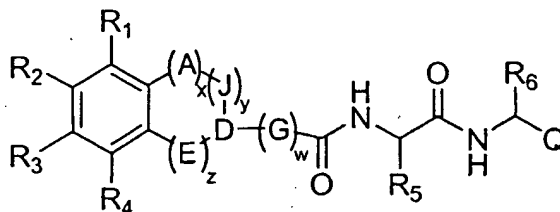


CLAIMS

1. A compound having the structure (I):



(I)

and pharmaceutically acceptable derivatives thereof;

wherein each occurrence of A, J, C, D or G is independently absent, CR_A , CR_AR_B , $C=O$, O, S, NR_A , or N, wherein each occurrence of R_A and R_B is independently hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;

A and J, J and D, D and E, and D and G are each independently linked by a single or double bond as valency permits;

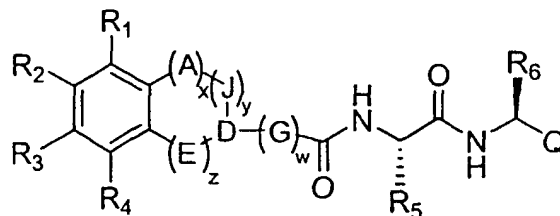
w, x, y and z are each independently 0, 1, 2, 3, 4, 5 or 6, but the sum of x, y and z is 0-6;

R_1 , R_2 , R_3 and R_4 are each independently hydrogen, halogen, -CN, - OR_C , - SR_C , - NR_CR_D , -(C=O) R_C or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, wherein each occurrence of R_C and R_D is independently hydrogen, a protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or R_C and R_D , taken together, form a heteroalicyclic or heteroaryl moiety; or wherein any two adjacent groups R_1 , R_2 , R_3 and R_4 , taken together, form an alicyclic or heteroalicyclic moiety, or an aryl or heteroaryl moiety;

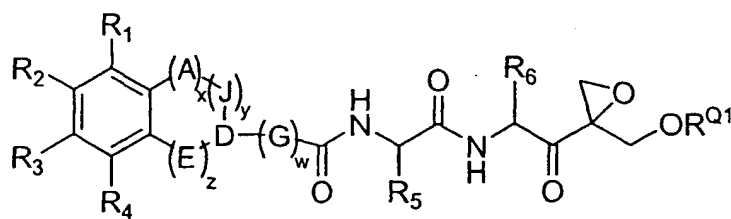
R_5 and R_6 are each independently an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and

Q is an O-containing heteroaliphatic or heteroalicyclic moiety.

2. The compound of claim 1, wherein the compound has the structure:

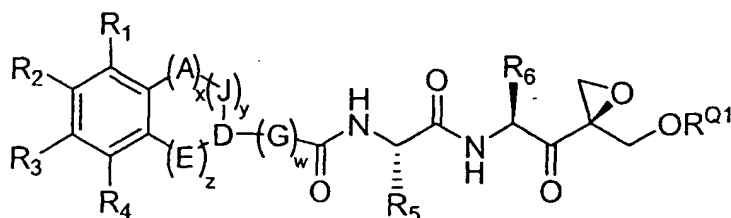


3. The compound of claim 1, wherein Q is an epoxycarbonyl moiety and the compound has the structure:

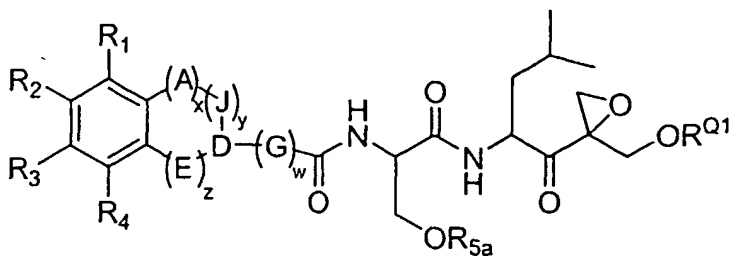


wherein R^{Q1} is hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, an oxygen protecting group or a prodrug moiety.

4. The compound of claim 3, wherein the compound has the structure:

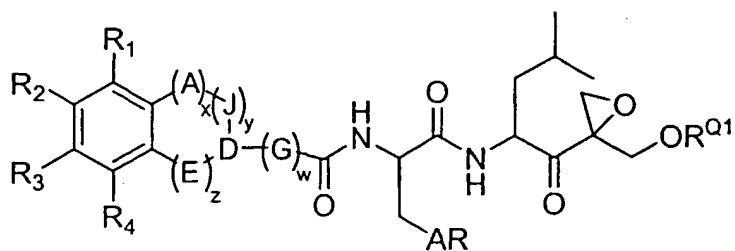


5. The compound of claim 3, wherein R_5 is $-\text{CH}_2\text{OR}_{5a}$ and the compound has the structure:



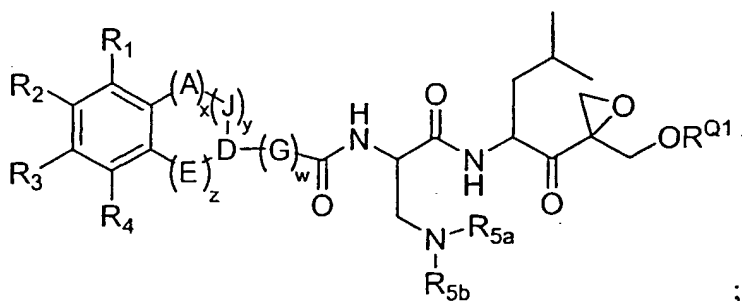
wherein R_{5a} is hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, an oxygen protecting group or a prodrug moiety.

6. The compound of claim 3, wherein R_5 is aryl or heteroaryl and the compound has the structure:



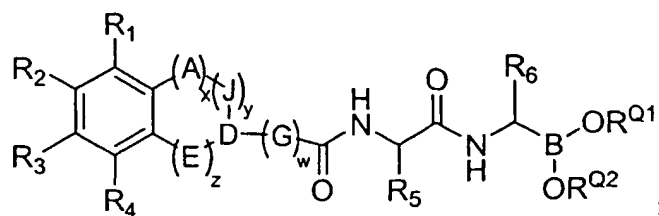
wherein AR is an aryl or heteroaryl moiety.

7. The compound of claim 3, wherein R_5 is $-\text{CH}_2\text{NR}_{5a}\text{R}_{5b}$ or heteroaryl and the compound has the structure:



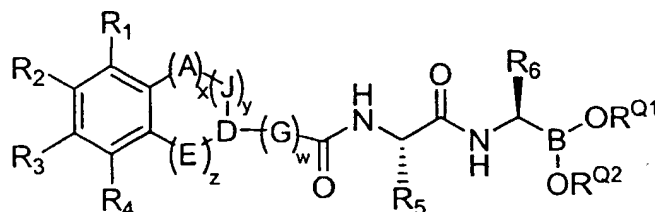
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b} , taken together, form a heteroalicyclic or heteroaryl moiety.

8. The compound of claim 1, wherein Q is a boron-containing moiety and the compound has the structure:

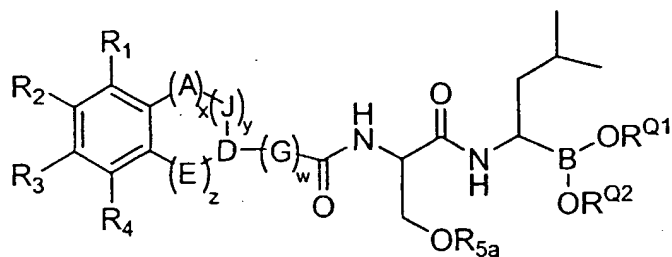


wherein R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2} , taken together, form a heteroalicyclic moiety.

9. The compound of claim 8, wherein the compound has the structure:

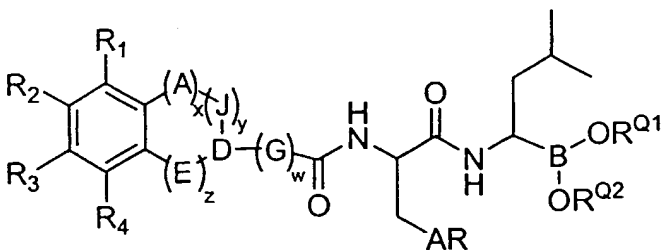


10. The compound of claim 3, wherein R_5 is $-\text{CH}_2\text{OR}_{5a}$ and the compound has the structure:



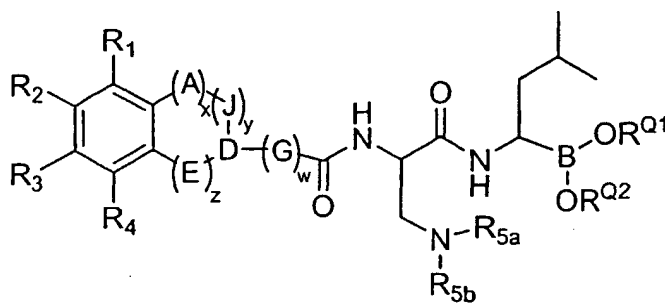
wherein R_{5a} is hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, an oxygen protecting group or a prodrug moiety.

11. The compound of claim 8, wherein R_5 is aryl or heteroaryl and the compound has the structure:



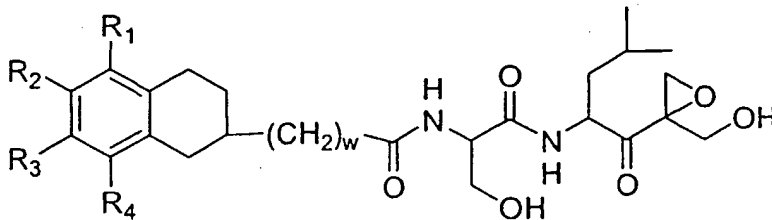
wherein AR is an aryl or heteroaryl moiety.

12. The compound of claim 8, wherein R_5 is $-\text{CH}_2\text{NR}_{5a}\text{R}_{5b}$ or heteroaryl and the compound has the structure:



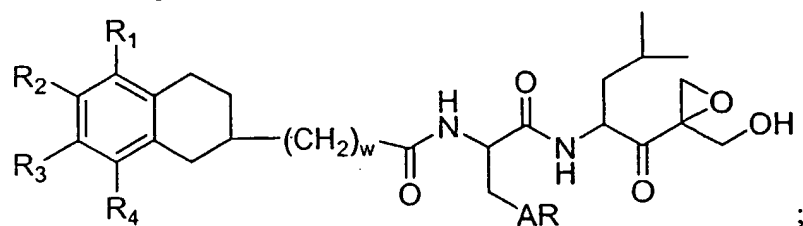
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b}, taken together, form a heteroalicyclic or heteroaryl moiety.

13. The compound of any one of claims 1-12, wherein x, y and z are each 1, and A, J, D, and E are each CH₂.
14. The compound of any one of claims 1-12, wherein w, x and y are each 0.
15. The compound of any one of claims 1-12, wherein x, y, z and w are 0 and D is absent.
16. The compound of any one of claims 1-12, wherein G is CH₂ and w is 0, 1, or 2.
17. The compound of any one of claims 1-12, wherein x, y and z are each 1; A, J, D, and E are each CH₂; G is CH₂ and w is 0, 1, or 2.
18. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



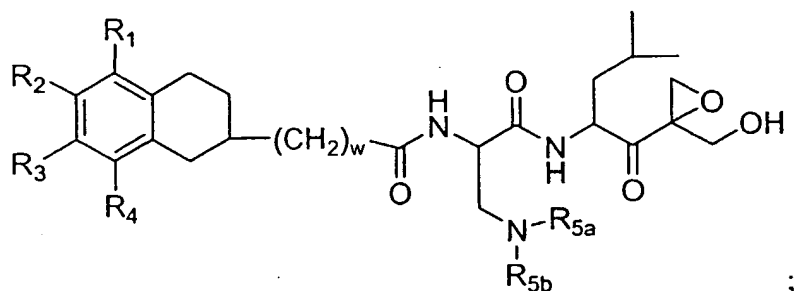
wherein w is 0, 1 or 2; and R_1 , R_2 , R_3 and R_4 are each independently hydrogen, OR_C , halogen, or NR_CR_D , wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

19. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



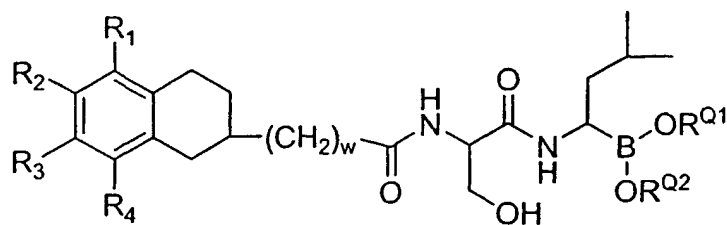
wherein AR is an aryl or heteroaryl moiety; w is 0, 1 or 2; and R_1 , R_2 , R_3 and R_4 are each independently hydrogen, OR_C , halogen, or NR_CR_D , wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

20. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



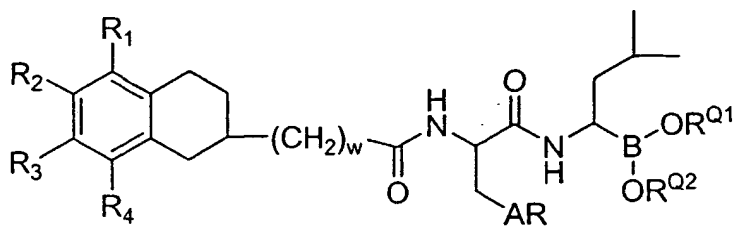
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b} , taken together, form a heteroalicyclic or heteroaryl moiety; w is 0, 1 or 2; and R_1 , R_2 , R_3 and R_4 are each independently hydrogen, OR_C , halogen, or NR_CR_D , wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

21. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



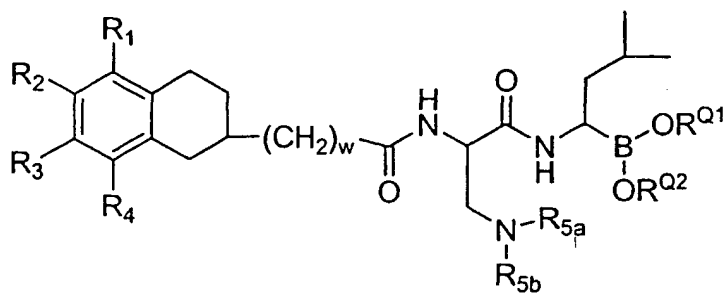
wherein R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2}, taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and R₁, R₂, R₃ and R₄ are each independently hydrogen, OR_C, halogen, or NR_CR_D, wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

22. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



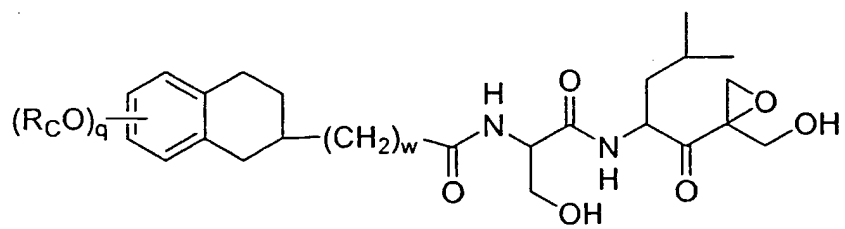
wherein AR is an aryl or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2}, taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and R₁, R₂, R₃ and R₄ are each independently hydrogen, OR_C, halogen, or NR_CR_D, wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

23. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



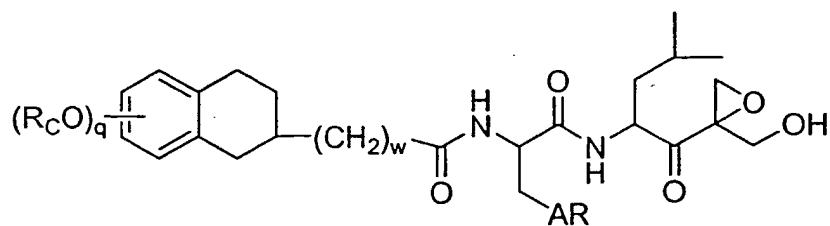
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b} , taken together, form a heteroalicyclic or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2} , taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and R_1 , R_2 , R_3 and R_4 are each independently hydrogen, OR_C , halogen, or $NR_C R_D$, wherein each occurrence of R_C and R_D is independently hydrogen or lower alkyl.

24. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



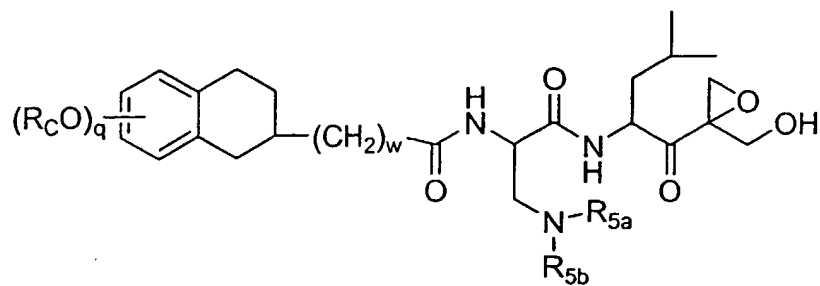
wherein w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

25. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



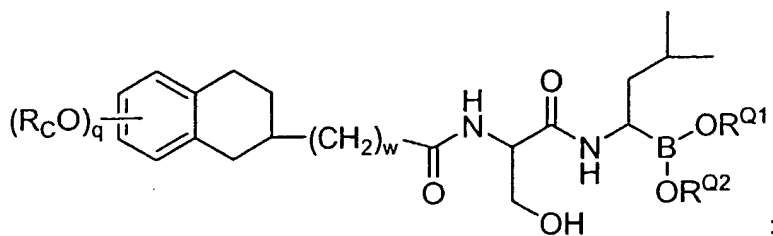
wherein AR is an aryl or heteroaryl moiety; w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

26. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



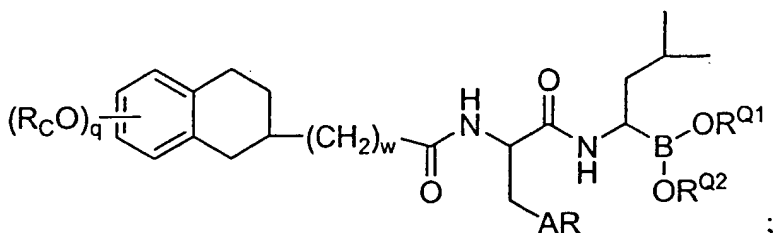
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b} , taken together, form a heteroalicyclic or heteroaryl moiety; w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

27. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



wherein R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2} , taken together, form a heteroalicyclic moiety; w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

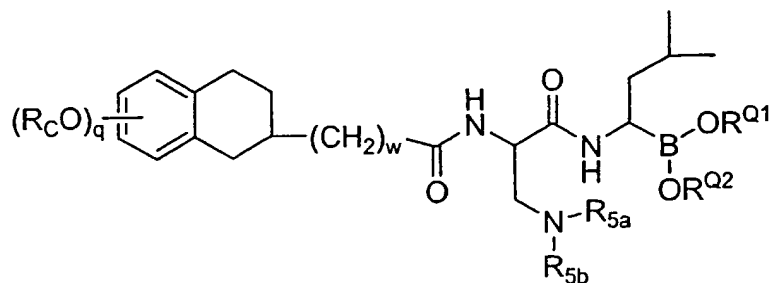
28. The compound of claim 1, wherein x , y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



wherein AR is an aryl or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2} , taken together,

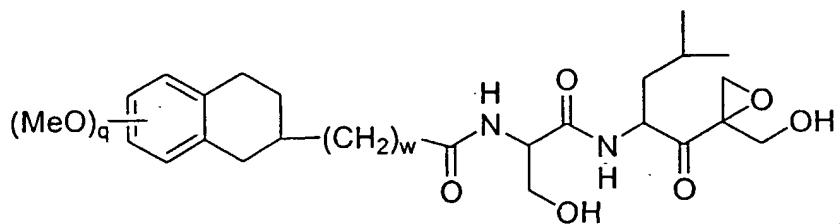
form a heteroalicyclic moiety; w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

29. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



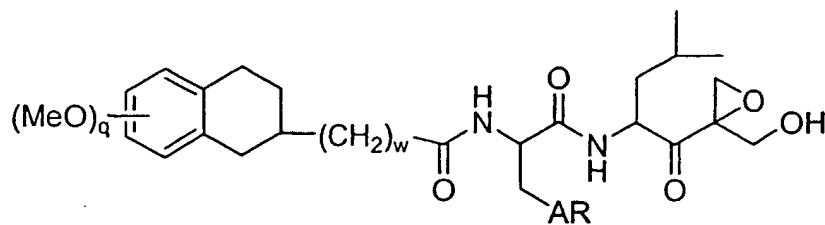
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b} , taken together, form a heteroalicyclic or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2} , taken together, form a heteroalicyclic moiety; w is 0, 1 or 2, each occurrence of R_C is independently lower alkyl, and q is 0, 1, 2, 3 or 4.

30. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



wherein w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

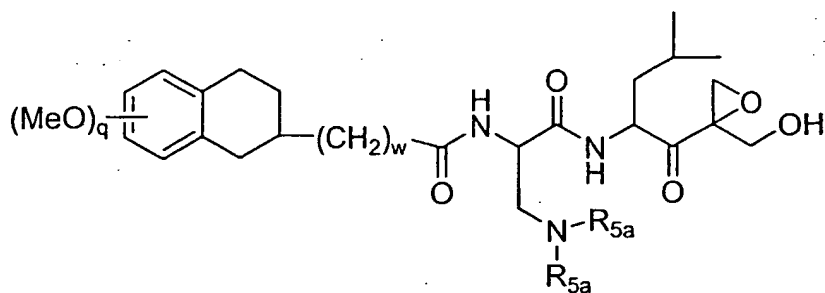
31. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH_2 and the compound has the structure:



wherein AR is an aryl or heteroaryl moiety; w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

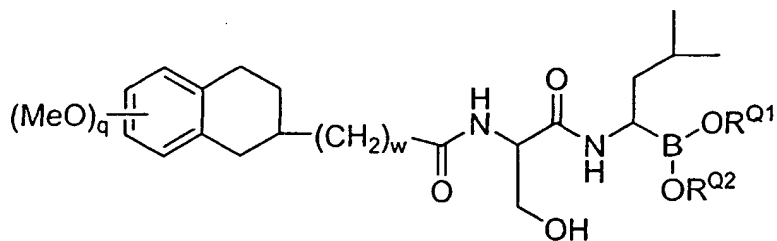
4.

32. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



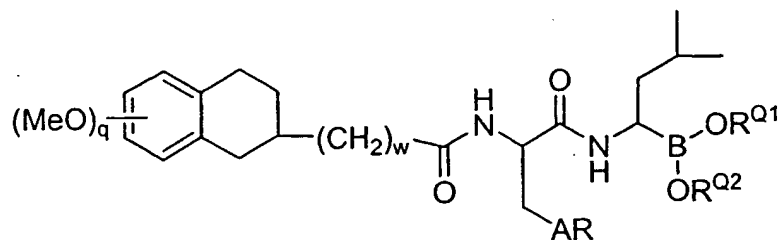
wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b}, taken together, form a heteroalicyclic or heteroaryl moiety; w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

33. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



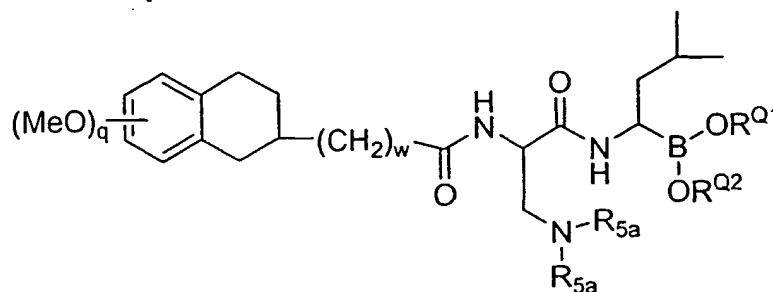
wherein R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2}, taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

34. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



wherein AR is an aryl or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group; or R^{Q1} and R^{Q2}, taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

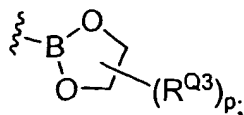
35. The compound of claim 1, wherein x, y and z are each 1; A, J, D, and E are each CH₂ and the compound has the structure:



wherein R_{5a} and R_{5b} are each independently hydrogen, a nitrogen protecting group, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or a prodrug, or R_{5a} and R_{5b}, taken together, form a heteroalicyclic or heteroaryl moiety; R^{Q1} and R^{Q2} are each independently hydrogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, or an oxygen protecting group, or R^{Q1} and R^{Q2}, taken together, form a heteroalicyclic moiety; w is 0, 1 or 2; and q is 0, 1, 2, 3 or 4.

36. The compound of any one of claims 21-23, 27-29 and 33-35, wherein R^{Q1} and R^{Q2} are each hydrogen.

37. The compound of any one of claims 21-23, 27-29 and 33-35, wherein – B(OR^{Q1})(OR^{Q2}) is a moiety having the structure:



wherein R^{Q3} is lower alkyl and p is an integer from 0-4.

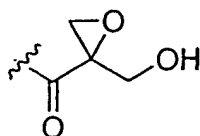
38. The compound of any one of claims 1-12, wherein x , y and z are each 1 and A-J-D-E together represent $-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-$.
39. The compound of any one of claims 1-12, wherein x is 0 and A is absent and y and z are each 1 and J-D-E together represent $-\text{CH}_2-\text{CH}_2-\text{CH}_2-$.
40. The compound of any one of claims 1-12, wherein x is 0 and A is absent, z is 0 and E is absent and J-D together represents $-\text{CH}_2-\text{CH}_2-$.
41. The compound of any one of claims 1-12, wherein x , y and z are each 1 and A-J-D-E together represent $-\text{N}=\text{CH}-\text{CH}=\text{N}-$.
42. The compound of any one of claims 1-12, wherein x , y and z are each 1 and A-J-D-E together represent $-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-$ and G is CH_2 and w is 0, 1 or 2.
43. The compound of any one of claims 1-12 and 18-23, wherein R_1 , R_2 , R_3 and R_4 are each independently hydrogen, halogen, protected or unprotected hydroxyl, protected or unprotected thiol, protected or unprotected amino, alkyl, alkoxy, thioalkyl, mono-or di-substituted alkylamino, or wherein any two adjacent groups R_1 , R_2 , R_3 or R_4 , taken together are a cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety,
whereby each of the alkyl moieties is independently substituted or unsubstituted, linear or branched, cyclic or acyclic, and each of the aryl and heteroaryl moieties is independently substituted or unsubstituted.
44. The compound of any one of claims 1-12 and 18-23, wherein R_1 , R_2 , R_3 and R_4 are each independently hydrogen or lower alkoxy.

45. The compound of any one of claims 1-12 and 18-23, wherein R_1 , R_2 , R_3 and R_4 are each independently hydrogen or methoxy.
46. The compound of any one of claims 1-12 and 18-23, wherein R_1 , R_2 , R_3 and R_4 are each methoxy.
47. The compound of any one of claims 1-12 and 18-23, wherein R_1 is hydrogen and each of R_2 , R_3 and R_4 are independently lower alkoxy.
48. The compound of any one of claims 1-12 and 18-23, wherein R_1 is hydrogen and each of R_2 , R_3 and R_4 are methoxy.
49. The compound of any one of claims 1-4 and 8-9, wherein R_5 is alkyl, cycloalkyl, alkenyl, cycloalkenyl, alkynyl, cycloalkynyl, $C_{1-6}OR_{5a}$, $C_{1-6}NR_{5a}R_{5b}$, aryl or heteroaryl; wherein R_{5a} and R_{5b} are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, $-C(NH_2)=N(NO_2)$, $-C(=O)OR_{5c}$, $-C(=O)R_{5c}$ or a protecting group; wherein R_{5c} is hydrogen, alkyl, alkenyl, alkynyl, aryl or heteroaryl.
50. The compound of any one of claims 1-4 and 8-9, wherein R_5 is alkyl, cycloalkyl, $-CH_2OR_{5a}$, $-CH_2NR_{5a}R_{5b}$, $-CH_2$ aryl or $-CH_2$ heteroaryl; wherein R_{5a} and R_{5b} are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, $-C(NH_2)=N(NO_2)$, $-C(=O)OR_{5c}$, $-C(=O)R_{5c}$ or a protecting group; wherein R_{5c} is hydrogen, alkyl, alkenyl, alkynyl, aryl or heteroaryl.
51. The compound of any one of claims 1-4 and 8-9, wherein R_5 is alkyl, cycloalkyl, CH_2OR_{5a} , $CH_2NR_{5a}R_{5b}$ or substituted or unsubstituted $-CH_2Ph$; wherein R_{5a} and R_{5b} are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, $-C(NH_2)=N(NO_2)$, $-C(=O)OR_{5c}$, $-C(=O)R_{5c}$ or a protecting group; wherein R_{5c} is hydrogen, alkyl, alkenyl, alkynyl, aryl or heteroaryl.
52. The compound of any one of claims 1-4 and 8-9, wherein R_5 is $-CH_2OH$ or benzyl.

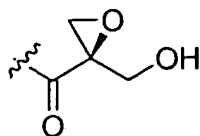
53. The compound of any one of claims 1-4 and 8-9, wherein R_6 is alkyl, cycloalkyl, alkenyl, cycloalkenyl, alkynyl, cycloalkynyl, aryl or heteroaryl.
54. The compound of any one of claims 1-4 and 8-9, wherein R_6 is lower alkyl or aryl.
55. The compound of any one of claims 1-4 and 8-9, wherein R_6 is - $CH_2CH(CH_3)_2$.

56. The compound of claim 1 or 2, wherein Q is an epoxycarbonyl moiety.

57. The compound of claim 56, wherein Q has the structure:



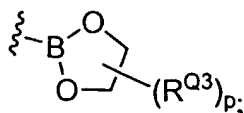
58. The compound of claim 57, wherein Q has the structure:



59. The compound of claim 1 or 2, wherein Q is a Boron-containing moiety.

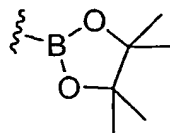
60. The compound of claim 59, wherein Q is $-B(OH)_2$.

61. The compound of claim 59, wherein Q has the structure:



wherein R^{Q3} is lower alkyl and p is an integer from 0-4.

62. The compound of claim 61, wherein Q has the structure:



63. A pharmaceutical composition comprising a compound of any one of claims 1-12 and 18-35; and

a pharmaceutically acceptable carrier or diluent, and optionally further comprising an additional therapeutic agent.

64. The pharmaceutical of claim 63 wherein the compound is present in an amount effective to exert an antiproliferative and/or anticancer effect.

65. The pharmaceutical of claim 63 wherein the compound and the additional therapeutic agent are present in an amount effective to exert an antiproliferative and/or anticancer effect.

66. The pharmaceutical of claim 63 wherein the compound is present in an amount effective to exert an anti-inflammatory effect.

67. The pharmaceutical of claim 63 wherein the compound and the additional therapeutic agent are present in an amount effective to exert an anti-inflammatory effect.

68. A method for treating cancer comprising:
administering to a subject in need thereof a therapeutically effective amount of a compound of any one of claims 1-12 and 18-35; and
optionally further administering an additional therapeutic agent.

69. The method of claim 68, wherein the method is used to treat prostate, breast, colon, bladder, cervical, skin, testicular, kidney, ovarian, stomach, brain, liver, pancreatic or esophageal cancer or lymphoma, leukemia, or multiple myeloma.

70. The method of claim 68, wherein the cancer is a solid tumor.